

REMARKS

Applicants submit the within Amendment in response to the Final Official Action mailed December 12, 2003 (hereinafter the "Previous Final Action"). The present communication is also intended as a record of the telephone interview between undersigned counsel and Examiner Stewart on March 18, 2004. The Examiner's courtesy in granting and conducting such interview is greatly appreciated. A petition for a one-month extension of time in which to respond is transmitted herewith. A Request for Continued Examination ("RCE") is also transmitted herewith. Accordingly, the finality of the Previous Final Action should be withdrawn and the present Amendment should be considered a response to a non-final Official Action. Reconsideration and withdrawal of the rejection of all the claims now in the application are respectfully requested in view of the following remarks.

In the Previous Final Action, the Examiner maintains his rejection of the claims under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,571,192 to *Schönhöffer* ("*Schönhöffer* '192"). The Examiner contends that *Schönhöffer* '192 discloses in FIG. 2 a fusion implant comprising an implant member (2) having a first end, a second end and an outer wall (3) defining an internal cavity. The Examiner also contends that the valleys of the threaded surface on the outer wall can be interpreted as a plurality of grooves which encircle the whole circumference of the outer wall and segment the implant member into a plurality of ring-like segments. Each ring-like segment, the Examiner further contends, includes a plurality of apertures (9 & 10) extending in communication with the internal cavity. The Examiner contends that the *Schönhöffer* '192 implant also includes a plurality of end caps (1 & 1'). The Examiner

also contends that claims 23, 24, 26, 27, 29, 36, 41 and 42 are anticipated as set forth on pages 3 and 4 of the Office Action.

With respect to claim 44, the Examiner has interpreted the phrase of "at least one planar groove" as "of or pertaining to a geometric claim; flat or level," as set forth in the Merriam-Webster Dictionary. Accordingly, the Examiner contends that *Schönhöffer*'s groove is planar because the surface of each groove does not have projections or depressions. With respect to claim 45, the Examiner contends that if he were to draw an imaginary line crossing the valley of the threaded surface of FIG. 2, that the above line would be perpendicular to the end of the implant member. Finally, with respect to claim 46, the Examiner contends that it is "clearly shown" in FIG. 2 of *Schönhöffer* that the grooves close to the ends do not intersect the apertures as well as some other grooves along the length of the implant.

Applicants respectfully traverse the rejection. As Applicants' undersigned counsel discussed with the Examiner during the March 18, 2004 telephone interview, the implant member (2) of *Schönhöffer* '192 plainly includes and requires "screwthreads" rather than the discrete grooves of the claimed invention. As such, *Schönhöffer* '192's threaded grooves do not and cannot segment the implant member into discrete ring-like segments as shown in FIG. 1 and as described in page 7 of the specification and as required by the pending claims. Instead, the "screwthreads" of *Schönhöffer* '192, which consist of continuous grooves beginning at each end of the implant and ending at the center region (8), segment the implant into a *spiral* or *ribbon-like* structures. For this reason alone, *Schönhöffer* '192 cannot anticipate independent claims 21, 41, 44, and 46, nor any of dependent claims 22-29, 35, 36, 42, 43 and 45.

In addition, regarding claim 23, the grooves of *Schönhöffer* '192 cannot be capable of acting as a cutting guide. As discussed above, the grooves of *Schönhöffer* '192 are threaded, and therefore, should a surgeon use such grooves as a cutting guide, the surgeon would end up cutting the implant member into a helical or spiral-shaped structure, unlike the ring-like segments produced by using the grooves of the claimed invention as a cutting guide.

Regarding claim 26, which recites that the height of at least two of the ring-like segments are varied, because *Schönhöffer* '192 teaches the more continuous threaded groove beginning at one end of the implant and ending at the center section (8), discrete ring-like segments are not produced. Again, should a surgeon cut along the threaded groove, one would not produce ring-like segments of varying height but would instead produce a helical structure.

Further, with respect to claim 36, Applicants submit that one of ordinary skill in the art would not equate the locking pins of the present invention with the plurality of peaks created by the threaded bore in each cap of *Schönhöffer* '192. Specifically, the threaded bore in each cap of *Schönhöffer* '192 is actually one continuous thread extending in a helical fashion along the end cap and as such, cannot be interpreted as a plurality of locking pins. As one of ordinary skill in the art would recognize, the threaded bore of *Schönhöffer* '192 functions by screwing the end cap to the outer wall of the implant member, rather than snapping the threaded bore onto the implant member. As such, the threaded bore of the *Schönhöffer* '192 patent is significantly different from the locking pins of Applicants' invention.

With respect to independent claim 41, Applicants again note that the claimed method includes providing an implant

member having at least one groove which encircles the outer wall and segments the implant member into discrete ring-like segments. As noted above, the threaded groove of *Schönhöffer* '192 does not segment the implant member into discrete ring-like segments, but rather segments the implant member into helical or spiral structures.

With respect to claims 44 and 45, Applicants have deleted the term of "planar" from claim 44 and now require, as requested by the Examiner, that the inner surface of the at least one groove extends perpendicularly to the longitudinal axis of the implant member. This plainly distinguishes amended claim 44 from *Schönhöffer* '192 in that the screwthread grooves or "valleys" of *Schönhöffer* '192 are necessarily pitched to permit the cap to be screwed onto the outer wall of the implant and therefore cannot be perpendicular to the horizontal axis of *Schönhöffer* 192's implant. Applicants also note that claim 45 has been amended to require that the at least groove is parallel to first end or second end of the implant member, unlike *Schönhöffer* '192, which teaches threaded bores that are necessarily pitched and therefore are not parallel to the first end or second end of the implant.

With respect to claim 46, Applicants respectfully traverse the Examiner's contention that it is "clearly shown" in FIG. 2 of *Schönhöffer* '192 that the grooves close to the ends of the implant do not intersect the aperatures and that some other grooves along the length of the implant are capable of not intersecting the aperatures. As discussed and agreed to during the telephone interview, the screwthreads of *Schönhöffer* '192 compromise a single continual groove beginning at one end of the implant and ending at the thickened center region (8). As such, the groove of *Schönhöffer* '192 intersects numerous aperatures as the groove continues along the implant towards the thickened

center section (8). Thus, the Examiner cannot arbitrarily select a portion of the threaded groove of *Schönhöffer* '192 to assert that the threaded screw reads on claim 46.

The Examiner has also maintained his rejection of claims 31-33 under 35 U.S.C. § 103(a) as being obvious over *Schönhöffer* '192 in view of U.S. Patent No. 6,015,436 to *Schönhöffer* ("*Schönhöffer* '436"). The Examiner contends that *Schönhöffer* '192 discloses the invention substantially as claimed; however, it does not disclose a plurality of spikes arranged radially about the face of the end caps. The Examiner therefore relies upon *Schönhöffer* '436 as teaching an implantable disk prosthesis comprising implant member (1) having a first end and a second end having a plurality of spikes (12) radially about the face of the first and second ends for the purpose of having a good attachment with the walls of the vertebrae (citing col. 4, lns. 13-24.) The Examiner concludes, therefore, that it would have been obvious to modify the distal ends of the *Schönhöffer* '192 implant to the distal ends spikes of *Schönhöffer* '436 in order to have a good attachment with the walls of the vertebrae.

Applicants respectfully traverse the rejection. As noted above, *Schönhöffer* '192 teaches an implant member having screwthreads that cannot segment the implant member into discrete ring-like segments, as required by claims 31-33. *Schönhöffer* '436 does not supply what *Schönhöffer* '192 lacks. As such, the claimed invention cannot be obvious over *Schönhöffer* '192 in view of *Schönhöffer* '436.

Finally, Applicants have added new claims 47-52, which were discussed with the Examiner during the telephone interview. Support for the new claims are found in the original specification and figures. No new matter has been added. New dependent claims 47 and 48 recite that the implant member

includes a plurality of apertures (claim 47) and that the at least one groove does not intersect the plurality of apertures. As discussed above, *Schönhöffer* fails to teach or suggest an implant member having at least one groove which segments the implant member into discrete ring-like segments. Nor does it teach at least one groove which does not intersect the plurality of apertures. New claim 49 recites that the implant member includes at least one endless screw which encircles the outer wall of the implant member and segments the implant member to discrete ring-like segments. As undersigned counsel discussed with the Examiner, *Schönhöffer* '192 includes threaded grooves which begin at opposing ends of the implant and end in the center section (8). As such, the grooves of *Schönhöffer* '192 are not "endless". Dependent claim 50 requires that the groove of claim 49 is substantially circular-shaped, as shown in FIG. 1 of the application. New claim 51 recites that the implant member has at least one endless groove which includes an inner surface that extend perpendicularly to the longitudinal axis to the implant member. As discussed with the Examiner, *Schönhöffer* '192 does not teach an endless groove, nor does it teach an inner groove surface that extends perpendicularly to the longitudinal axis of the implant member. Instead, *Schönhöffer* '192 includes threaded grooves which are pitched and therefore cannot be perpendicular to the horizontal axis of the implant member. Finally, dependent claim 52 recites that the endless groove is a substantially circular-shaped groove. Plainly, the spiral groove of *Schönhöffer* '192 does not teach or suggest a substantially circular-shaped groove.

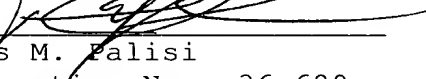
As it is believed that all of the rejections set forth in the Previous Final Action have been fully met, favorable reconsideration and allowance are earnestly solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he telephone Applicants' attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: April 12, 2004

Respectfully submitted,

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